RD-91 X5-5-1837

RD-II

CONFIDENTIAL

8 September 1955

Chief, [redacted] 25X1

Chief, [redacted]

/Reduction Front-end Noise APR-9/Type Equipment

1. Attached hereto are two brochures from the [redacted] 25X1
[redacted], covering the germanium 25X1
mixer diode type IN263. Examination of the material will reveal that a reduction of crystal mixer noise has been accomplished. The improvement is in the order of 3 db.

2. The IN263 requires forward bias for its mixing application. In this connection, forward bias of silicon diodes for mixer applications does not provide any improvement of performance. [redacted] has provided installation kits for the [redacted] to permit 25X1
the modification of specific radar units to permit increased operational performance. Utilization of these crystals in ECM receivers has not been undertaken by either [redacted] 25X1
(based on current knowledge).

3. In view of your continued interest in ECM superhetrodyne, crystal mixer, type receivers, it is possible that your office may desire to establish a requirement for the investigation covering the achievable improvement of these superhetrodyne receivers through the employment of this crystal.

4. Samples, through the courtesy of the [redacted] 25X1
are on hand. The IN263 configuration is as contained in the attached photo cut. An end cap can be fabricated to permit its use (for test purposes) in a standard holder, recognition being made of the fact that this may not be optimum design. (A typical end cap configuration is contained in Bomac Lab advertisements featuring the reversible IN415 and IN416 diodes.)

5. It is proposed, in the event that no mixer investigation is considered warranted, to utilize the samples for crystal video measurement/evaluation purposes.

[redacted] 25X1

[redacted] 25X1

Att[redacted] 25X1
ation Brochures

OC-[redacted] (8 September 1955)

CC: R&D Subject File
Reading
Chrono
Dev-ep

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